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GB 2168596 A GB 2010730 A GB 1044125 A
GB 0904356 A GB 0579266 A US 4463981 A
US 4056278 A US 3929363 A

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(54) Grab

(57) A grab for picking up dog faeces from the pavement comprises an inner tubular member (2') carrying an array of spring fingers (22') which are biased outwardly but held in a closed configuration by an outer tubular member (1') which is slidable upwardly to release the fingers to an open configuration (not shown). In the open configuration the array of fingers can be applied to the faeces, which can be grabbed and within a re-entrant portion of a plastic bag (8) which covers the fingers, by sliding the outer tubular member downwardly. In another embodiment the grab is somewhat longer and is suitable for fruit-picking. In a further embodiment, two sets or arrays of fingers 22, 33 are provided (Figs. 1-3).

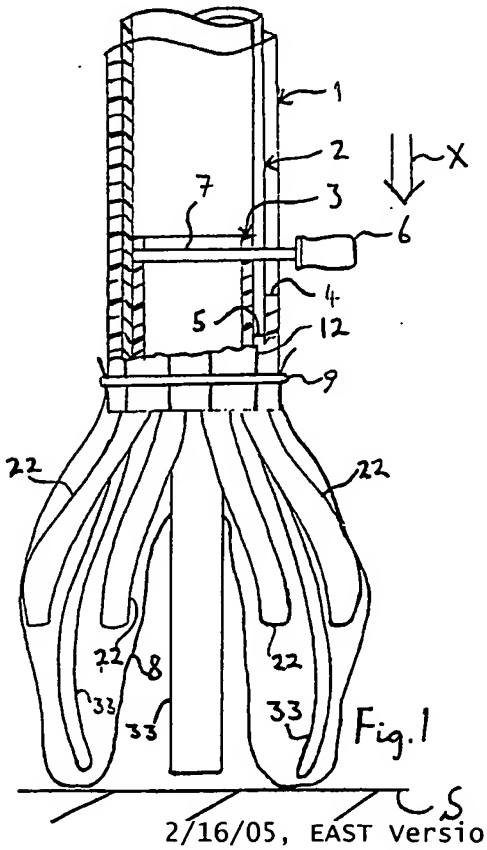

Fig.1

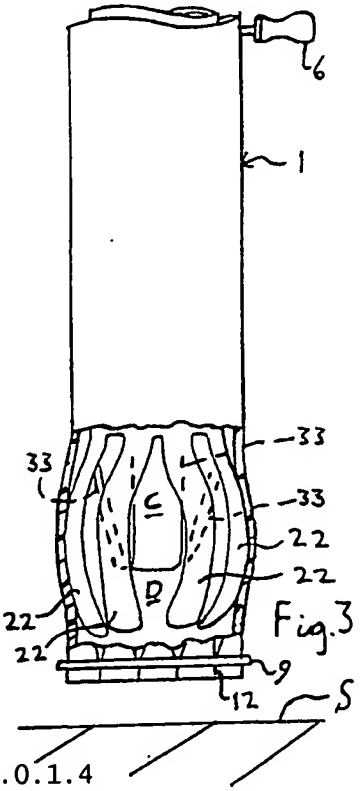

Fig.3

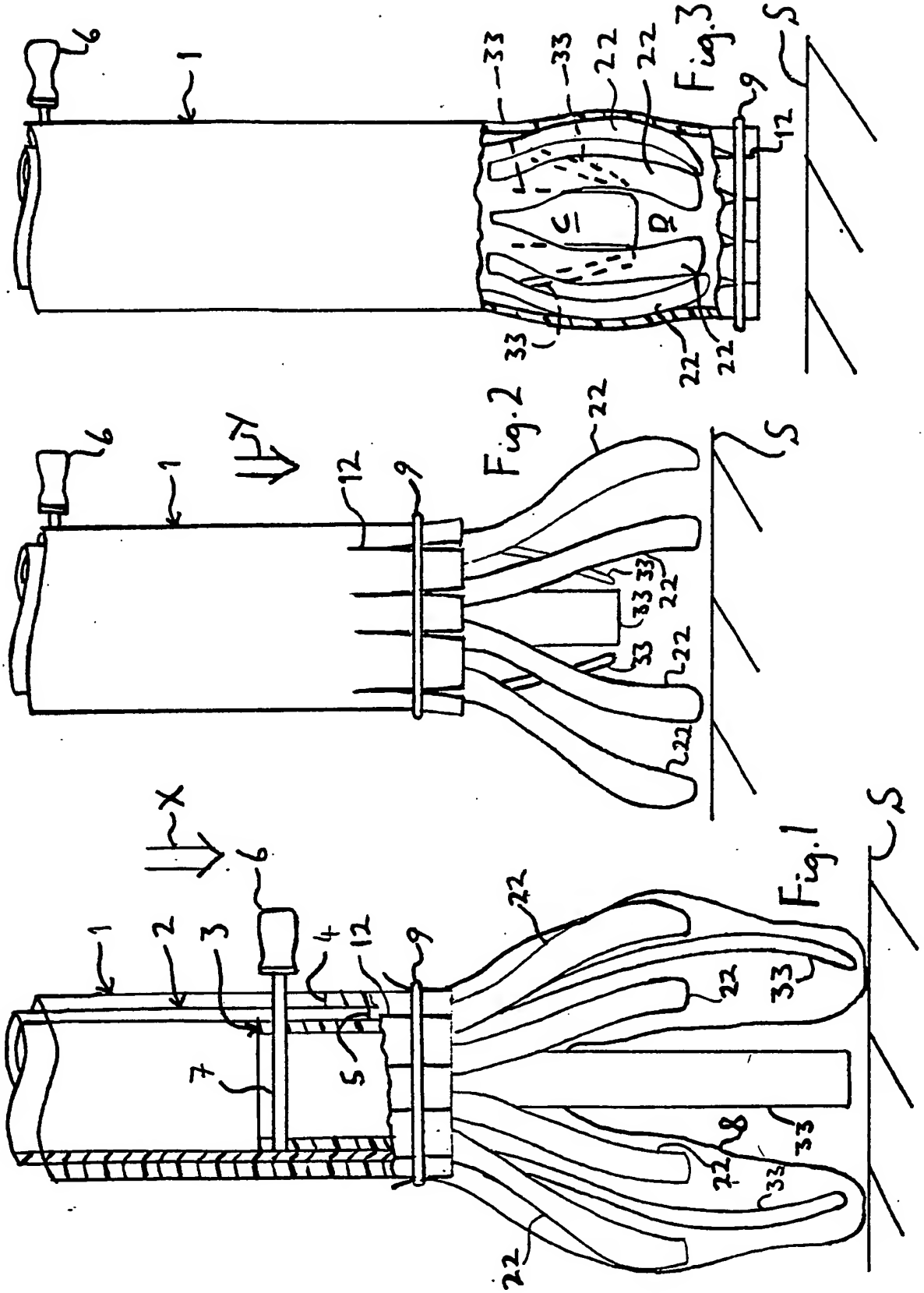
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Fig.3
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Fig.2
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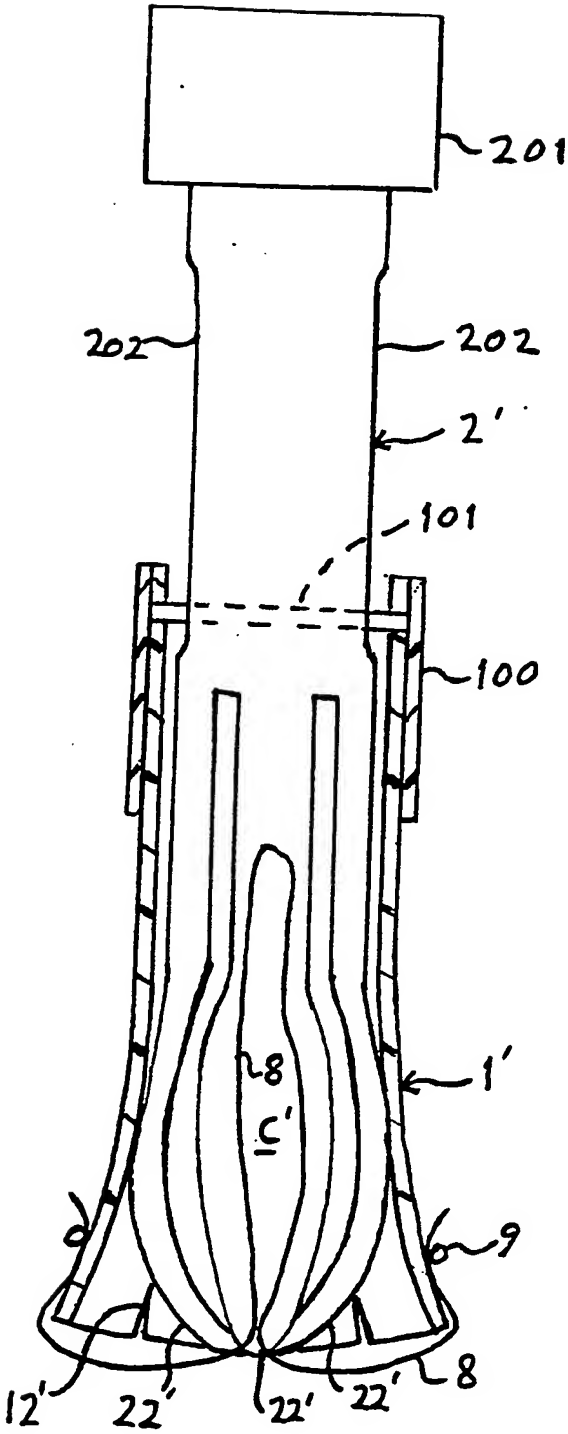

Fig. 4

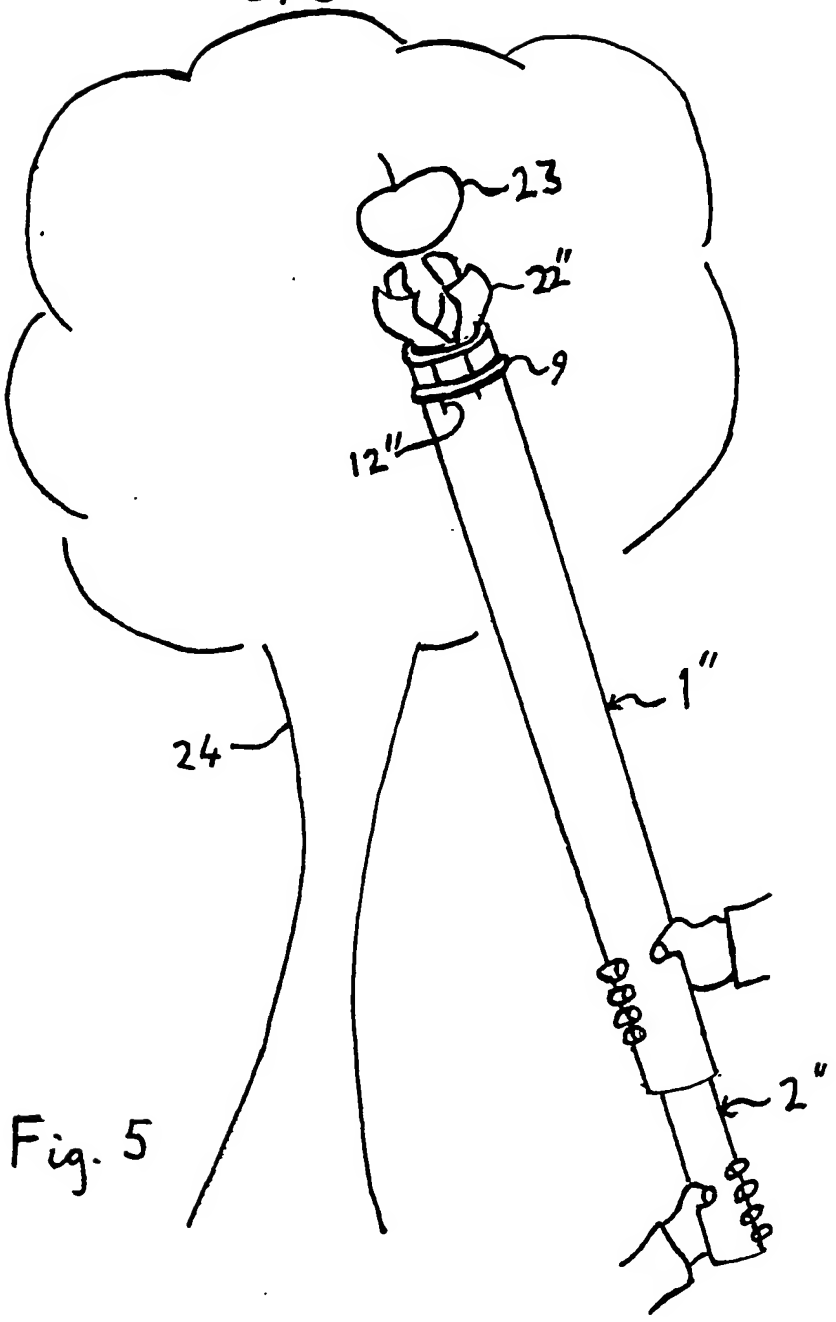

Fig. 5

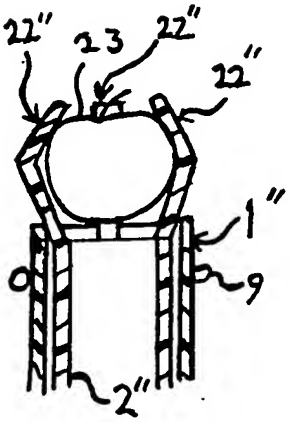

Fig. 6

Grab

The present invention relates to a grab. In certain embodiments the grab is useful for picking up dog faeces from the pavement but other embodiments are useful for fruit-picking, for example.

The invention provides a grab comprising an inner member carrying at one end thereof an array of spaced-apart co-operating movable fingers and carrying a generally tubular outer member which is slidable longitudinally relative to said inner member to engage said fingers at outer surfaces thereof and force them inwardly to a closed configuration in which they can grab an object, the fingers being biased radially outwardly whereby when said outer member is slid away from said end the fingers are released and extend radially outwardly in an open configuration.

As noted above, the device of the present invention is particularly useful for removing faeces from the pavement. It has been estimated that in the U.K. alone, over 1,000 tonnes of dog excrement is deposited every day, and this represents a significant health hazard. Accordingly a need exists for a simple unobtrusive device which can be carried by a dog-owner and used to remove any faeces deposited by his dog, particularly in view of the increasingly stringent bye-laws which are being introduced by many local councils.

Therefore in a particularly preferred embodiment of the invention, the array of fingers is shaped and dimensioned to grab dog faeces. Preferably the fingers are 75 to 150 mm long, for example.

Preferably the inner and outer members are both formed from plastic tubes, which are suitably 25 to 35 mm in diameter and 250 to 350mm in length, for example, in the case in which the grab is intended pick up faeces from the pavement.In such a case, a polythene bag is desirably fitted over the array of fingers and the bottom of the bag gathered

up within the array of fingers to form a re-entrant portion which encloses the faeces when the array is in its closed configuration. The bag and its contents can subsequently be disposed of without contacting either the user or any part of the device, simply by sliding the tubular outer member so as to release the array of fingers to its open configuration. Spare bags and cleaning materials such as detergent and a cloth for cleaning the pavement after the grab has been used may be stored in the upper end of the grab.

In one embodiment, two independently slidable inner members are provided, each carrying an array of movable fingers. After the major portion of faeces has been grabbed by one array and withdrawn within the outer tubular member, any remaining portion can be grabbed by the other array and similarly withdrawn.

Preferred embodiments of the invention are described below by way of example only, with reference to Figures 1 to 6 of the accompanying drawings, of which:

Figure 1 is an elevation, partly in section, of a grab in accordance with the invention for picking up dog faeces;

Figure 2 is an elevation of the grab of Figure 1 , showing its inner array of fingers in its closed configuration;

Figure 3 is an elevation of the grab of Figure 1, showing both arrays of fingers closed and withdrawn wihin the outer tubular member;

Figure 4 is an elevation, showing the outer tubular member in section, of another grab in accordance with the invention ehich is suitable for picking up dog faeces;

Figure 5 is a sketch perspective view of a fruit-picking grab in accordance with the invention, and

Figure 6 is a sectional elevation, showing the array of fingers of the device of Figure 5 in its closed configuration.

Referring to Figures 1 to 3, the device shown comprises an outer tubular member 1 and two inner tubular members 2 and 3 , all formed of polythene tubing. Inner tubular members 2 and 3 carry respective circular arrays of fingers 22 and 33 respectively and all three tubular members are independently slidable. Tubular member 3 is attached to a diametral steel rod 7 which extends through a longitudinal slot 4 in outer tubular member 1 and carries a handle 6 at its extremity.

Figure 1 shows the fingers of both arrays in their open configuration, to which they are biased by the natural resilience of the polythene. A flexible polythene bag 8 has its mouth secured to the exterior of outer tubular member 1 by a rubber band or circular tension spring 9 and has its bottom portion gathered up within the inner array of fingers 22 to form a re-entrant portion for enclosing subsequently- grabbed dog faeces .For the sake of clarity, bag 8 is not shown in Figures 2 and 3.

The operation of the device is as follows. The mouth of the array of fingers 33 is applied to faeces (not shown) deposited on ground surface S (Figure 1).Handle 6 is grasped and held in a fixed position with respect to ground surface S, the upper end of tube 2 (not shown) is grasped and pushed downwardly as indicated by arrow X and array of fingers 22 moves downwardly towards ground surface S whilst fingers 33 close around the dog faeces and withdraw them within outer tube 1, which is provided with slits 12 at its lower end to enable it to expand to accommodate the contents of the arrays of fingers. The resulting configuration is shown i n Figure 2.

Tubular member 2 is then held in a fixed position with respect to ground surface S and outer tube 1 is then lowered as indicated by arrow Y.

Fingers 22 are thereby forced inwardly to gather up any faeces not collected by fingers 33 and all the grabbed faeces are held within bag 8 (not shown in Figures 2 and 3) which is itself substantially enclosed within outertubular member 1. Thus one portion of faeces is enclosed within space C and a further portion is enclosed within space D.

Figure 4 shows a simpler embodiment in which a single inner tube 2' carries at its lower end four fingers 22' (only three of which are visible in Figure 4) which are outwardly biased by the natural resilience of the polythene of which they are made. In the closed configuration shown, their tips are pinched against a polythene bag 8 which is gathered up within the array to form a re-entrant portion C'. Tube 1' is provided with slits 12' and a rubber band or the like which function similarly to the corresponding slits and band shown in Figures 1 to 3. Tube 1' is provided with a diametral steel rod which is held in place by a collar 100 and slides within guide slots 202 in tube 2'. Tube 2' carries a handle 201 which can be used force it downwardly relative to tube 1' to open fingers 22' to an open configuration similar to that shown in Figure 1, ready for grabbing.

It should be noted that the grabs shown in Figures 1 to 3 and Figure 4 can be used for grabbing litter and other material besides animal faeces.

The grab shown in figures 5 and 6 can be used for picking an apple 23 from an apple tree 24 and comprises an inner tube 2" which slides within an outer tube 1" and carries a circular array of fingers 22". The distal end of tube 1" is provided with slits 12" and is radially compressed by a circular tension spring or rubber band 9. Tubes 1" and 2" are both made of polythene.

By sliding tube 1" upwardly, fingers 22" are resiliently engaged in a closed configuration around apple 23 as shown in Figure 6.

Claims:

1)A grab comprising an inner member carrying at one end thereof an array of spaced-apart co-operating movable fingers and carrying a generally tubular outer member which is slidable longitudinally relative to said inner member to engage said fingers at outer surfaces thereof and force them inwardly to a closed configuration in which they can grab an object, the fingers being biased radially outwardly whereby when said outer member is slid away from said end the fingers are released and extend radially outwardly in an open configuration.

2)A grab as claimed in claim 1 wherein said tubular outer member is slidable over said array of fingers when the fingers are in said closed configuration so as to cover at least the major proportion of their length.

3)A grab as claimed in claim 1 or claim 2 wherein said inner member is an elongate tubular member which is manually operable to engage and release said fingers.

4)A grab as claimed in any preceding claim wherein said array is shaped and dimensioned to grab dog faeces.

5)A grab as claimed in claim 4, comprising a further inner member which is slidable within said first-mentioned inner member and carries a further array of co-operating movable fingers which are biased outwardly to an open configuration and can be forced to a closed configuration around a

portion of dog faeces by withdrawing said further inner member within said first-mentioned inner member whilst the array of fingers of the latter is in its open configuration, said tubular outer member being slidable forwardly over the array of fingers of the first-mentioned inner member to grab any remaining portion of dog faeces and enclose said remaining portion within a space between said arrays of fingers.

6)A grab as claimed in claim 4 or claim 5, further comprising a bag which substantially encloses the or each said array of fingers and has a re-entrant portion for accommodating grabbed dog faeces.

7)A grab as claimed in any of claims 4 to 6, wherein said generally tubular outer member is expandible to accommodate dog faeces held therein by the or each said array of fingers.

8)A grab as claimed in any of claims 1 to 3, wherein said generally tubular outer member and said inner member are both elongate and said array is adapted to grab fruit, whereby said grab is suitable for fruit-picking.

9)A grab as claimed in claim 8 wherein said inner member is tubular.

10)A grab as claimed in claim 8 or claim 9 wherein said array of fingers is exposed over at least the major portion of its length when in its fully closed configuration.

11)A grab as claimed in any preceding claim wherein said fingers are composed of resilient plastics material.

12)A grab as claimed in claim 11 wherein said fingers are moulded integrally with their said inner member.

13)A grab for picking fruit substantially as described hereinabove with reference to Figures 5 and 6 of the accompanying drawings.

14)A method of picking fruit comprising grabbing said fruit with a grab as claimed in any of claims 8 to 10 or 13.

15)A grab for dog faeces substantially as described hereinabove with reference to Figures 1 to 3 or Figure 4 of the accompanying drawings.